

WE CLAIM:

1. A reduced lubricant accumulating slider, the slider comprising:

 - a first air bearing surface;
 - a second air bearing surface;
 - a center portion located at least partially between the first air bearing surface and the second air bearing surface;
 - a first streamline control element located at least partially between the first air bearing surface and the center portion; and
 - a second streamline control element located at least partially between the second air bearing surface and the center portion;

wherein the first streamline control element and the second streamline control element function to reduce lubricant accumulation.

2. The reduced lubricant accumulating slider of claim 1, wherein the center portion comprises a center air bearing surface.

3. The reduced lubricant accumulating slider of claim 1, further comprising a third streamline control element in contact with the first air bearing surface and a fourth streamline control element in contact with the second air bearing surface.

4. The reduced lubricant accumulating slider of claim 1, further comprising a recessed area between the first air bearing surface and the second air bearing surface.

5. The reduced lubricant accumulating slider of claim 4, wherein each of the streamline control elements comprises an element that is raised above a surface of the recessed area, the element being less than or equal in height to the first and second air bearing surfaces.

6. The reduced lubricant accumulating slider of claim 1, further comprising a third air bearing surface, wherein the first air bearing surface and the second air bearing surface are bridged by the third air bearing surface.

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DETAILED DESCRIPTION

7. The reduced lubricant accumulating slider of claim 6, wherein the third air bearing surface and the center air bearing surface are positioned at opposite ends of the slider, the center air bearing surface being positioned beyond ends of the first and second air bearing surfaces that are opposite to the third air bearing surface.
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8. The reduced lubricant accumulating slider of claim 6, wherein the first and second streamline control elements each have a first end that is positioned in relation to the center air bearing surface and a second end that extends beyond the center air bearing surface towards the third air bearing surface.
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9. The reduced lubricant accumulating slider of claim 8, wherein the first ends of the first and second control elements each conform to a shape of the center air bearing surface.
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10. The reduced lubricant accumulating slider of claim 8, wherein the second ends of the first and second control elements are arranged and configured such that a distance between the first and second control elements increases as a distance to the third air bearing surface decreases.
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11. The reduced lubricant accumulating slider of claim 8, wherein the second ends of the first and second control elements are arranged and configured such that a distance between the first and second control elements decreases as a distance to the third air bearing surface decreases.
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12. A reduced lubricant accumulating slider comprising streamline control means for limiting stagnation and flow reversal.

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13. The reduced lubricant accumulating slider of claim 12, further comprising:
first air bearing means for providing lift to the slider at operational velocity;
second air bearing means for providing lift to the slider at operational velocity;
and
5 center transducer means for housing a transducer.
14. The reduced lubricant accumulating slider of claim 13, wherein the streamline control means comprises a first streamline control element located in a recessed area defined in part by the first air bearing means and the center transducer means and a second streamline control element located in a recessed area defined in part by the second air bearing means and the center transducer means.
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15. A method of reducing lubricant accumulation in a slider that has a geometry that is susceptible to stagnation and flow reversal, the slider comprising:
15 a first air bearing surface;
a second air bearing surface; and
a center air bearing surface located at least partially between the first air bearing surface and the second air bearing surface;
the method comprising steps of:
20 determining which geometric features of the slider are prone to stagnation and flow reversal; and
modifying air flow around said geometric features in order to carry accumulated lubricant out from under the slider.
25 16. The method of claim 15, wherein the step of modifying air flow comprises providing a first streamline control element and a second streamline control element in a recessed area that is positioned between the first air bearing surface and the second air bearing surface.

17. The method of claim 16, wherein the step of modifying air flow comprises arranging and configuring the first and second streamline control elements to each have a first end that is positioned in relation to the center air bearing surface and a second end that extends beyond the center air bearing surface.

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18. The method of claim 17, wherein the step of modifying air flow comprises arranging and configuring the first portions of the first and second control elements to each conform to a shape of the center air bearing surface.

10 19. The method of claim 17, wherein the step of modifying air flow comprises arranging and configuring the second ends of the first and second control elements such that a distance between the first and second control elements increases as a distance from the center air bearing surface increases.

15 20. The method of claim 17, wherein step of modifying air flow comprises arranging and configuring the second ends of the first and second control elements such that a distance between the first and second control elements decreases as a distance to the center air bearing surface increases.

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